

## NOTES AND NEWS

REDUCTION OF *GUNNERA KILIPIANA* TO SYNONYMY WITH *G. MEXICANA*.—The taxonomy of many plants has been obscured by poorly collected and poorly preserved material. The literature is replete with synonyms reflecting the tendency to multiply taxa needlessly when treating fragmentary or incomplete data. Those taxa inhabiting remote areas or possessing large, cumbersome organs are especially prone to such treatment. *Gunnera* L., a gigantic herb of the tropical montane cloud forest, usually placed in the Haloragaceae, has suffered much in this manner.

In the summer of 1912, J. A. Purpus collected *Gunnera* (Purpus 8568) in the Sierra Chiconquiaco above Misantla in Veracruz, Mexico. T. S. Brandegee named it a new species, *G. mexicana* Bdg., in 1922 (Brandegee, Univ. Cal. Publ. Bot. 12:181–188. 1922). C. L. Lundell studied material of *Gunnera* which Eizi Matuda (no. 2763) had collected from Volcán Tacaná in Chiapas in 1939 and found noticeable differences between it and Brandegee's published description. In 1940 he named the Matuda specimen *G. kilipiana* Lundell (Lundell, Phytologia 1:449–453. 1940).

After examining the collections of D. S. Barrington from the type locality of *G. mexicana* above Misantla where he collected in December, 1971, I was struck by the great similarity between his material and Lundell's type of *G. kilipiana* from Chiapas. I have since examined the 2 sheets of *G. mexicana* from the Gray Herbarium (both labeled "isotype") and the holotype from the University of California, Berkeley, and have examined living material of both in the field. I am convinced that Brandegee erred in his description and misled Lundell, who subsequently named a new species needlessly. *Gunnera kilipiana* is synonymous with *G. mexicana*.

The holotype of *G. mexicana* (UCB 206237) consists of a habit photograph, an inflorescence and a piece of a leaf folded like a fan into a rough triangle with a short stub of petiole at the narrowest end. The Gray Herbarium isotypes consist of similarly folded, but smaller pieces. Careful examination reveals that, by carefully matching cut edges, impressions of veins and decayed spots, all three pieces were once part of the same leaf (minus its petiole). Brandegee based his description on only the middle section of this single leaf.

Brandegee's error was never discovered. Inasmuch as the material Lundell had from Chiapas differed from Brandegee's description, he distinguished it from *G. mexicana*, noting that this, the only other Mexican species, was known to him from the brief original description only. He explained that his new species "apparently differs from *G. kilipiana* amply in its leaf form being *attenuate at the base* rather than deeply cordate" (my emphasis). The photograph was not mentioned.

Brandegee's published description states: "foliis . . . latitudine valde variabilibus, prope apicem usque ad 14 cm latis, ca. 32 cm longis in petiolum brevissimum gradatim angustatis . . .," and "This extralimital species differs from the generic description in the shape of the leaves. The leaves in circumscription are rounded at the top and *attenuate into a very short petiole*" (my emphasis).

This description could not apply to the *Gunnera* which Purpus collected if Brandegee had described whole leaves. Most *Gunnera* have cordate leaves; a few have peltate ones. Purpus easily recognized *Gunnera* in the field; this would have been unlikely if it had differed greatly from known species. From his journal of that trip he states: "Otra vez llegó el aguacero, tremendo; subiendo, al pasar encontramos totonacas que se protegían del agua con las hojas de la *Gunnera* y de un *Caladium*. Con tal motivo, tuve que acostarme para que mi ropa se secara . . ." (in Sousa Sanchez, Univ. Cal. Publ. Bot. 51:1–36. 1969).

If he had used it as an umbrella, as he says, it must like *Caladium* have had a long petiole. I have used it myself in this fashion, and without the petiole, it is useless. Purpus's photograph, attached to both the holotype and an isotype and published by Brandegee, shows perfectly round, deeply cordate leaves, raised and presumably supported by what must be long petioles.

The material from the type locality bears obovate or reniform leaves, moder-

ately lobed, with deeply cordate sinuses and long (exceeding 1 m) petioles. It resembles *G. insignis* (Oerst.) A. DC. from Costa Rica and Panama somewhat, and *G. kilipiana* very closely.

Further comparison of both types and material from the type locality of *G. mexicana* as well as additional material from central Chiapas and southwestern Guatemala shows great similarity in leaf surface features and inflorescence characters. Pubescence on the leaf surface is very similar to the above and much denser than that of the two other Central American species, *G. insignis* and *G. talamancana* Weber & Mora. Inflorescence characters, particularly in the thickness of the branches and the position, size and shape of their subtending bracts are also quite similar and consistent with synonymy.

I can find no real differences between material from the type locality for *G. mexicana* and Lundell's type. Lundell's description is a very good description of the Veracruz material. Since there can no longer be any conflict between Brandegee's and Lundell's short (58 and 28 word) descriptions, I can see no other alternative than to call them one species.

Even though Brandegee's description is based on fragmentary material and thus misleads, it is the earlier, and has priority, so *G. kilipiana* must be reduced to synonymy.

Material Studied: MEXICO: VERACRUZ: Sierra Chiconquiaco above Misantla, 26 Dec 1971, *Barrington 416a, 416b 417, 439* (GH); 18 Sep 1973, *Palkovic 767, 768, 769, 770, 771, 772, 773, 774, 775, 776, 777, 778, 779, 780* (GH); Jul 1912, *Purpus 8568* (UC holotype of *G. mexicana*, GH isotopes). CHIAPAS: Volcán Tacaná, 23 Mar 1939, *Matuda 2763* (GH, type of *G. kilipiana*).

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FERNS OF THE NEW YORK MOUNTAINS, CALIFORNIA, WITH BIOGEOGRAPHIC COMMENTS.—Several chains of mountain ranges in the eastern Mojavo Desert are of particular biogeographic interest. The southernmost chain extends from the Granite Mountains through the Providence, Mid Hills, and New York Mountains to the northeast. North of the eastern part of this chain is another chain, comprising the Ivanpah, Mescal, and Clark Mountains. Still farther north is the Kingston Range, and finally, in adjacent Nevada, the very high Spring Mountains form the north end of this assemblage.

These mountains share several important features. They are high enough at their crests nearly or quite to emerge from the desert zone of the region. They regularly receive winter snow, and importantly, they generally intercept significant precipitation from the frequent late summer invasions of moist air from the Gulf of Mexico. This invests them with two rainy seasons, much like climatic regimens to the east. These ranges exhibit great tectonic complexity, and the array of exposed geological formations provides both chemical and physical edaphic diversity. Collectively, these ranges lie equidistant from ranges with comparable elevations to the east in Arizona (Cerbat and Hualapai Mountains) and to the southwest in California (Transverse Ranges).

These features favor a token intrusion of numerous biotic elements not otherwise a part of the fauna and flora of California. Particularly, plants and animals with ranges principally in the Arizona Uplands (Shreve, Publ. Carnegie Inst. Wash. 591:42-43, map 1. 1951) of the Sonoran Desert may reach California here. Also, some organisms with southern Rocky Mountain affinities and ranges across boreal Arizona form a part of this southeast California assemblage. This has been noted